

[0178] The display 1600, for example, may include a liquid crystal display (LCD), an light emitting diode (LED) display, an organic LED (OLED) display, a micro electro-mechanical system (MEMS) display, or an electronic paper display. For example, the display 1600 may display a variety of content (e.g., text, images, videos, icons, symbols, or the like) to the user. The display 1600 may include a touch screen, and may receive a touch input, a gesture input, a proximity input, or a hovering input by using electronic pens or a user's body part.

[0179] The communication interface 1700, for example, may configure communication between the electronic device 1010 and external devices (e.g., a first external electronic device 1020, a second external electronic device 1040, or a server 1060). For example, the communication interface 1700 may be connected to the network 1620 through wireless communication or wired communication in order to thereby communicate with the second external electronic device 1040, or the server 1060. The communication interface 1700 may include a communication processor (CP), and the communication processor may constitute one to a plurality of modules constituting the communication interface 1700. The communication processor may be included in the processor 1200.

[0180] For example, the wireless communication may use, as a cellular communication protocol, at least one of long term evolution (LTE), LTE Advance (LTE A), code division multiple access (CDMA), wideband CDMA (WCDMA), a universal mobile telecommunications system (UMTS), Wireless Broadband (WiBro), Global System for Mobile Communications (GSM), or the like. In addition, the wireless communication, for example, may include a short-range communication 1640. The short-range communication 1640, for example, may include at least one of wireless fidelity (WiFi), Bluetooth, near field communication (NFC), or a global navigation satellite system (GNSS). The GNSS, for example, may include at least one of a global positioning system (GPS), a Glonass (global navigation satellite system), a Beidou Navigation Satellite System (Beidou), or Galileo, the European global satellite based navigation system according to the usage area or bandwidth. Hereinafter, "GPS" may be interchangeably used with "GNSS" in the present specification. For example, the wired communication may include at least one of a universal serial bus (USB), a high definition multimedia interface (HDMI), recommended standard 232 (RS-232), or plain old telephone service a (POTS). The network 1620 may include at least one of the telecommunication networks, such as a computer network (e.g., local area network (LAN) or wide area network (WAN)), the Internet, or a telephone network.

[0181] The first external electronic device 1020 and the second external electronic device 1040 may be the same as, or different from, the electronic device 1010 in its type. The server 1060 may include a group of one or more servers. At least some, or all, of the operations that are executed in the electronic device 1010 may be executed by the electronic device 1020 or 1040, or the server 1060. In the case where the electronic device 1010 executes a specific function or service automatically or by request, the electronic device 1010 may make a request to the electronic device 1020 or 1040, or the server 1060 for at least some of the functions related to the function or service additionally or instead of executing the same by itself. The electronic device 1020 or 1040, or the server 1060 may execute the requested function

or additional function, and may transfer the result thereof to the electronic device 1010. The electronic device 1010 may provide the requested function or service by providing the result or by additionally processing the same. To this end, for example, cloud computing, distributed computing, or client-server computing technology may be used.

[0182] FIG. 44 is a block diagram of an electronic device 2010, according to an embodiment of the present disclosure. The electronic device 2010, for example, may include all or some of the elements of the electronic device 1010 shown in FIG. 43. The electronic device 2010 may include one or more processors (e.g., application processors (AP)) 2100, a communication module 2200, a memory 2300, a sensor module 2400, an input device 2500, and a display 2600. The electronic device 2010 may include at least one of a subscriber identification module 2240, an interface 2700, an audio module 2800, a camera module 2910, a power management module 2950, a battery 2960, an indicator 2970, or a motor 2980.

[0183] The processor 2100, for example, may control a multitude of hardware or software elements connected with the processor 2100, and may perform the processing of various pieces of data and a calculation by executing an operating system or application programs. The processor 2100 may be implemented by, for example, a system on chip (SoC). The processor 2100 may further include a graphic processing unit (GPU) and/or an image signal processor. The processor 2100 may include at least some (e.g., a cellular module 2210) of the elements shown in FIG. 44. The processor 2100 may load instructions or data received from one or more other elements (e.g., a non-volatile memory) to a volatile memory to then process the same, and may store a variety of data in a non-volatile memory.

[0184] The communication module 2200 may have the same or a similar configuration as the communication interface 1700 of FIG. 43. The communication module 2200, for example, may include at least one of the cellular module 2210, a WiFi module 2230, a Bluetooth module 2250, a GNSS module 2270 (e.g., a GPS module, a Glonass module, a Beidou module, or the Galileo module), an NFC module 2280, or a radio frequency (RF) module 2290.

[0185] The cellular module 2210, for example, may provide services of voice calls, video calls, text messaging, or the Internet through communication networks. The cellular module 2210 may perform identification and verification of the electronic device 2010 in communication networks by using the SIM 2240. The cellular module 2210 may perform at least some of the functions provided by the processor 2100. The cellular module 2210 may include a communication processor (CP).

[0186] For example, each of the WiFi module 2230, the Bluetooth module 2250, the GNSS module 2270, or the NFC module 2280 may include a processor for processing data transmitted and received through the corresponding module. At least some (e.g., two or more) of the cellular module 2210, the WiFi module 2230, the Bluetooth module 2250, the GNSS module 2270, or the NFC module 2280 may be included in one integrated chip (IC) or one IC package.

[0187] The RF module 2290 may transmit and receive communication signals (for example, RF signals). The RF module 2290 may include, for example, a transceiver, a power amp module (PAM), a frequency filter, a low noise amplifier (LNA), antennas, or the like. At least one of the cellular module 2210, the WiFi module 2230, the Bluetooth